

- C Jank D*
- (c) having a specific growth rate on glucose as a sole carbon source of at least about 0.4h^{-1} .
24. (Reiterated) A mutant host cell of Claim 23 comprising recombinant DNA coding for one or more of the enzymes selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase such that the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.
- Jank*
25. (once amended) A mutant host cell of Claim 23 further [modified to reduce or eliminate pyruvate kinase activity] comprising mutations in the pykA and/or pykF genes in said host cell.
- C 2*
26. (once amended) A mutant host cell of Claim 24 further [modified to reduce or eliminate pyruvate kinase activity] comprising mutations in the pykA and/or pykF genes in said host cell.
- Jank D 2*
27. (once amended) A method for increasing PEP availability [to enhance carbon flow] into a biosynthetic or metabolic pathway [utilizing PEP as a precursor or intermediate] of a host cell [capable of utilizing a phosphotransferase transport system for carbohydrate transport], the method comprising:
culturing [selecting] a host cell mutant characterized by:
having a Pts-/glu+ phenotype;
requiring galactose permease activity to transport glucose; and
having a specific growth rate on glucose as a sole carbon source of at least about 0.4h^{-1} ; [and]
[culturing the host cell] in the presence of an appropriate carbon source, wherein said host cell mutant utilizes PER as a precursor or intermediate of metabolism.
28. (reiterated) A method of Claim 27 wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of one or more gene(s) selected from the group consisting of *ptsI*, *ptsH* and *crr*.

29. (reiterated) A method of Claim 27 further comprising modifying the selected host cell to introduce therein recombinant DNA coding one or more of the enzymes selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase such that the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.
30. (reiterated) A method of Claim 27 further comprising modifying the selected host cell to reduce or eliminate pyruvate kinase activity in said host cell.
31. (reiterated) A method of Claim 30 wherein pyruvate kinase activity is reduced or eliminated in the host cell by introducing a mutation in DNA encoding one or more of the sequences coding for pyruvate kinase, pyruvate kinase promoter region and other regulatory sequences controlling expression of pyruvate kinase.

CJW

33. (once amended) A method of Claim [32] 42 wherein the DNA used to transform the host cell encodes one or more enzyme(s) selected from the group consisting of DAHP synthase, DHQ synthase, DHQ dehydratase, shikimate dehydrogenase, shikimate kinase, EPSP synthase and chorismate synthase.

34. (once amended) A method of Claim [32] 42 further comprising transforming the host cell with recombinant DNA coding one or more enzyme(s) selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase so that said enzyme is expressed at enhanced levels relative to wild-type host cells.

35. (reiterated) A method of Claim 33 further comprising transforming the host cell with recombinant DNA coding one or more enzyme(s) selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase so that said enzyme is expressed at enhanced levels relative to wild-type host cells.

*C4
C5/C6*
36. (once amended) A method of Claim [32] 42 wherein the desired compound is selected from the group consisting of tryptophan, tyrosine and phenylalanine.

37. (reiterated) A method of Claim 36 wherein the desired compound is tryptophan and the host cell is transformed with DNA coding one or more gene(s) selected from the group consisting of *aroG*, *aroA*, *aroC*, *aroB*, *aroL*, *aroE*, *trpE*, *trpD*, *trpC*, *trpB*, *trpA* and *tktA* or *tktB*.

*Sub 3
D3
C5*
38. (once amended) A method for obtaining a Pts-/glucose+, galactose permease requiring-mutant cell[s], the method comprising:
a. selecting a host cell which utilizes a phosphotransferase transport system;
b. mutating the host cell [by inactivating the phosphotransferase transport system by deleting or inactivating selected genes of said system];
c. culturing [in a continuous system] the mutant host cell[s] using glucose as a carbon source; and
d. selecting [from] a mutant host cell[s] which grows on glucose at a specific growth rate of at least about 0.4 h^{-1} .

39. (amended) A method of Claim 38 wherein the mutant cells are selected due to a specific growth rate on glucose of [at least] about 0.8 h^{-1} .

Please add the following new Claims 40 through 46:

--40. The mutant cell of Claim 23 having a specific growth rate on glucose as a sole carbon source of about 0.8 h^{-1} .

41. The mutant cell of Claim 23 wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of one or more gene(s) selected from the group consisting of *ptsI*, *ptsH* and *crr*.

- Surf D4*
42. A method for enhancing production of a desired compound in a modified host cell, said host cell in its unmodified form being capable of utilizing a phosphotransferase transport system for carbohydrate transport, the method comprising,
- (a) culturing a modified host cell with an appropriate carbon source, said modified host cell characterized by having a Pts-/glu+ phenotype; requiring galactose permease activity to transport glucose; having a specific growth rate on glucose as a sole carbon source of at least about 0.4h^{-1} ; and utilizing PEP as a precursor or intermediate of metabolism, said modified host cell further comprising recombinant DNA encoding one or more enzyme(s) catalyzing reactions in the pathway of biosynthetic production of said desired compound in said modified host cell; and
- (b) optionally recovering said compound.
- C*
43. The mutant cell of Claim 42 having a specific growth rate on glucose as a sole carbon source of about 0.8h^{-1} .
44. The mutant cell of Claim 42 wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of one or more gene(s) selected from the group consisting of ptsI, ptsH and crr.
45. The method of Claim 38 wherein mutating the host cell is by inactivating the phosphotransferase transport system.
46. The method of Claim 45 wherein said inactivating is by deleting part or all of gene(s) selected from the group consisting of ptsI, ptsH and crr.--

REMARKS

Claims 23-31, 33-39 and new claims 40-46 are pending in the instant application.

Claims 23, 25, 26, 27, 33, 34, 36, 38 and 39 have been amended by the instant